

# PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>PU040066</b>	<b>FOR FURTHER ACTION</b> <div style="text-align: right;">See Form PCT/IPEA/416</div>																									
International application No. <b>PCT/US2004/007152</b>	International filing date (day/month/year) <b>09.03.2004</b>	Priority date (day/month/year) <b>11.03.2003</b>																								
International Patent Classification (IPC) or national classification and IPC <b>H04N7/10, H04N7/20, H04H1/00, H04N7/24</b>																										
Applicant <b>THOMSON LICENSING S.A. et al.</b>																										
<ol style="list-style-type: none"> <li>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</li> <li>2. This REPORT consists of a total of 8 sheets, including this cover sheet.</li> <li>3. This report is also accompanied by ANNEXES, comprising:               <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 6 sheets, as follows:                   <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> </li> <li>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</li> </ol> </li> </ol>																										
<ol style="list-style-type: none"> <li>4. This report contains indications relating to the following items:               <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;"><input checked="" type="checkbox"/></td> <td style="width: 10%;">Box No. I</td> <td>Basis of the opinion</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> </li> </ol>			<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand  <b>28.10.2004</b>	Date of completion of this report  <b>31.05.2005</b>																									
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  <b>McGrath, S</b>  Telephone No. +49 89 2399-8961																									



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/US2004/007152

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-20 as originally filed

**Claims, Numbers**

1-28 received on 28.10.2004 with letter of 28.10.2004

**Drawings, Sheets**

1-6 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/US2004/007152

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-28
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-28
Industrial applicability (IA)	Yes: Claims	1-28
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. The following documents cited in the International Search Report (ISR) are referred to in this report:

D1: WO 02/089479 A

D2: ROSTAMI M ET AL: "Multi-decoder digital television platform" PROCEEDINGS 28TH EUROMICRO CONFERENCE, 4-6 SEPT. 2002, 4 September 2002 (2002-09-04), pages 170-175, XP010612143 DORTMUND, GERMANY

D3: WO 02/25847 A (ZYDONIK AARON E)

D4: EP-A-1 071 286 (SONY CORP)

D5: US-A-6 084 638 (BLYTHE II BRENT W ET AL)

D6: US-A-5 699 360 (TAKAHASHI HIROAKI ET AL)

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

- 2.1 Document D1, see in particular Figs. 4, 5 & 10, discloses (the references in parenthesis applying to this document):

a server apparatus, comprising:  
receiving means (tuner 1, 435) for receiving broadcast signals;  
first processing means ( ) for generating first analog signals responsive to said received signals;  
second processing means (tuner 2, 440) for generating second analog signals responsive to said received signals;  
wherein said first analog signals have a different\* encoding than the second analog signals, and said first analog signals are provided to a first client device (150) via a transmission medium (297) connecting said server apparatus

and said first client device in response to a first request signal requesting a first desired processed analog signal by identifying a first program (page 23, lines 17-19, & page 25, lines 7-9), and further

wherein said second analog signals are provided to a second client device (160) via a transmission medium connecting said server apparatus and said second client device in response to a first second request signal requesting a second desired processed analog signal by identifying a second program (page 23, lines 17-19, & page 25, lines 7-9).

- 2.2 \* It should be noted that it is entirely obvious that several multimedia signals derived from perhaps different media (such as satellite, cable, terrestrial broadcast etc) and/or different transponders/providers etc will often have different "encodings" which could cover an almost countless number of varying parameters, such as video definition, audio coding, FEC, encryption, tv standard etc.
- 2.3 D1 also discloses the use of unused bands on an existing cable in a home network - see page 27, lines 10-14.  
It should also be noted that D1 also mentions the use of PC s to "place carriers on the cable in an unused band for data transfer".
- 2.4 D1 does not disclose the detection of such an unused or available frequency band.
- 2.5 Thus a problem arises in D1 concerning how to determine which bands are unused or "available".
- 2.6 D5 discloses the use of an existing cable network for placing carriers carrying data coming from a PC. Thus the skilled person aware of the passage in D1 on page 27, lines 10-14 will be aware of the need to find unused channels either for satellite signals or expressly for PC signals. Given the known use of PC signals in an existing cable network in D1 the skilled person is drawn to use the PC and cable network solution disclosed in D5 and which thus solves the above-mentioned problem. In particular D5 discloses control means for detecting available frequency bands on coaxial cable and achieves the sharing of the coaxial cable for processed signals (from PC) and cable broadcast signals - see Figs. 1b, 1c, 2, col. 6, col. 8 and col. 10 -

col. 12, line 16.

Thus the skilled person is able to arrive at the subject-matter of claim 1 without the need for any inventive step.

- 2.7 The applicants have argued that D1 does not disclose transmitting signals on a different network from the original network since in the alleged invention the desired processed analog signal is sent on a different network. In D1 the re-modulated signals use the "same network".

However, claim 1 does not specify two separate networks.

The term "cable broadcast signals" also covers the scenario whereby re-modulated signals are added to a coaxial cable. Any broadcast signal on a coaxial cable can be considered as "cable broadcast signals". Cf many CATV systems which receive their tv signals via satellite.

Thus this argumentation is not considered to be convincing.

3. The subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT also for the reasons given below.

- 3.1 Document D2, see in particular Figs. 1, 2 & 4, discloses (the references in parenthesis applying to this document):

a server apparatus, comprising:

receiving means (tuners) for receiving broadcast signals;

first processing means (Tuner, Decoder, Pal Encoder, UHF modulator, eg top path of Fig. 2) for generating first analog signals responsive to said received signals;

second processing means (Tuner, Decoder, Pal Encoder, UHF modulator, eg middle or bottom path of Fig. 2) for generating second analog signals responsive to said received signals;

wherein said first analog signals have a different encoding than the second analog signals, and said first analog signals are provided to a first client device (Fig. 1, TV1) via a transmission medium (HCTV Network) connecting said server

apparatus and said first client device in response to a first request signal requesting a first desired processed analog signal by identifying a first program (see Fig. 4 and 6 - "remote commands"), and further

wherein said second analog signals are provided to a second client device (Fig. 1, TV2 or 3) via a transmission medium connecting said server apparatus and said second client device in response to a first second request signal requesting a second desired processed analog signal by identifying a second program (see Fig. 4 and 6 - "remote commands").

- 3.2 In D2 the respective outputs of the UHF Modulators of Fig. 1 are analog signals because any modulated signal cannot be considered any longer to be in the digital domain.  
Since each UHF Modulator uses an exclusive frequency (see page 173, RH col., lines 25-29) the "encoding" (since the term is very broad) is different in each case.
- 3.3 It should also be noted that it is entirely obvious that several multimedia signals derived from perhaps different media (such as satellite, cable, terrestrial broadcast etc) and/or different transponders/providers etc will often have different "encodings" which could cover an almost countless number of varying parameters, such as video definition, audio coding, FEC, encryption, tv standard etc.
- 3.4 D2 also discloses the use of unused/available bands on an existing cable in a home network - see page 173, RH col., lines 25-29.
- 3.5 D2 does not disclose the detection of such an unused or available frequency band.
- 3.6 Thus a problem arises in D2 concerning how to determine which bands are unused or "available".
- 3.7 D5 discloses the use of an existing cable network for placing carriers carrying data coming from a PC.  
In particular D5 discloses control means for detecting available frequency bands on coaxial cable and achieves the sharing of the coaxial cable for processed signals (from PC) and cable broadcast signals - see Figs. 1b, 1c, 2, col. 6, col. 8 and col. 10 -

col. 12, line 16.

Thus the skilled person aware of the need mentioned above in section 2.5 to find unused channels either for satellite signals is drawn to use the cable network solution disclosed in D5 and which thus solves the above-mentioned problem.

- 3.8 The applicants have argued that in D2 all requested signals are broadcast and available to all TVs. However, claim 1 is silent as to which other signals are transmitted or not to other entities in the system.
4. The same lack of inventive step objections also apply to independent claims 10 and 20.
5. Dependent claims 2-9, 11-19, 21-28 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(2) and (3) PCT).  
See D1-D6.

**Re Item VIII.**

Since the subject-matter of claim 20, which like claim 1 is directed to a "server apparatus", appears to include exclusively features which are already present in claim 1 the claims are not concise - Art. 6 PCT.



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**CLAIMS:**

1. A server apparatus (20), comprising:  
receiving means (21) for receiving broadcast signals;  
first processing means (28, 29) for generating first analog signals responsive to said received signals;  
second processing means (31-33) for generating second analog signals responsive to said received signal, wherein the first analog signals have a different encoding than the second analog signals, and said first analog signals are provided to a first client device (50) via a transmission medium connecting said server apparatus (20) and said first client device (50) in response to a first request signal requesting a first desired processed analog signal by identifying a first program and further wherein said second analog signals are provided to a second client device (60) via said transmission medium connecting said server apparatus (20) and said second client device (60) in response to a second request signal requesting a second desired processed analog signal by identifying a second program; and  
control means (35) for detecting available frequency bands on said transmission medium, wherein said available frequency bands are used to provide said first analog signals to said first client device (50) and to provide said second analog signals to said second client device (60), thereby causing said transmission medium to be shared between said processed analog signals and cable broadcast signals distributed over said transmission medium.
2. The server apparatus (20) of claim 1, wherein said transmission medium includes RG-59 cable.
3. The server apparatus (20) of claim 1, wherein said broadcast source includes a satellite source.
4. The server apparatus (20) of claim 1, wherein said broadcast source includes a digital terrestrial source.

5. The server apparatus (20) of claim 1, wherein said receiving means (21) processes said received signals to generate a digital transport stream.

6. The server apparatus (20) of claim 5, wherein said first processing means (28, 29) includes:

A/V processing means (28) for processing said digital transport stream to generate analog baseband signals; and

modulating means (29) for modulating said analog baseband signals to generate said first analog signals.

7. The server apparatus (20) of claim 5, wherein said second processing means (31-33) includes:

encoding means (31) for encoding said digital transport stream to generate encoded digital signals;

digital-to-analog converting means (32) for converting said encoded digital signals to analog baseband signals; and

modulating means (33) for modulating said analog baseband signals to generate said second analog signals.

8. The server apparatus (20) of claim 1, wherein said control means (35) scans a plurality of frequency bands on said transmission medium to detect said available frequency bands.

9. The server apparatus (20) of claim 1, wherein said control means (35) detects said available frequency bands based on a user input which selects said available frequency bands.

10. A method (400) for distributing signals from a server apparatus to a first client device and a second client device, comprising steps of:

receiving signals from a broadcast source (410);

generating first analog signals responsive to said received signals  
(430);

generating second analog signals responsive to said received signals  
(440), wherein the first analog signals have a different encoding than the  
second analog signals;

detecting an available frequency band on said transmission medium  
(420), wherein said available frequency band is used to provide said first  
analog signals to said first client device;

providing said first analog signals to said first client device via a  
transmission medium connecting said server apparatus and said first client  
device (450) in response to a first request signal requesting a first desired  
analog signal by identifying a first program;

detecting an available frequency band on said transmission medium  
(420), wherein said available frequency band is used to provide said second  
analog signals to said second client device; and

providing said second analog signals to said second client device via  
said transmission medium connecting said server apparatus and said second  
client device (460) in response to a second request signal requesting a  
second desired analog signal by identifying a second program, thereby  
causing said transmission medium to be shared between said analog signals  
and cable broadcast signals distributed over said transmission medium.

11. The method (400) of claim 10, wherein said transmission  
medium includes RG-59 cable.

12. The method (400) of claim 10, wherein said broadcast source  
includes a satellite source.

13. The method (400) of claim 10, wherein said broadcast source  
includes a digital terrestrial source.

14. The method (400) of claim 10, wherein said step of generating said first analog signals (430) includes:

processing said received signals to generate a digital transport stream (432);

processing said digital transport stream to generate analog baseband signals (434); and

modulating said analog baseband signals to generate said first analog signals (436).

15. The method (400) of claim 10, wherein said step of generating said second analog signals (440) includes the steps of:

processing said received signals to generate a digital transport stream (442);

encoding said digital transport stream to generate encoded digital signals (444);

converting said encoded digital signals to analog baseband signals (446); and

modulating said analog baseband signals to generate said second analog signals (448).

16. The method (400) of claim 10, wherein said detecting step (420) includes scanning a plurality of frequency bands on said transmission medium to identify said available frequency band.

17. The method (400) of claim 10, wherein said detecting step (420) is performed based on a user input which selects said available frequency band.

18. The method (400) of claim 10, wherein said detecting step (420) includes scanning a plurality of frequency bands on said transmission medium to identify said available frequency band.

19. The method (400) of claim 10, wherein said detecting step (420) is performed based on a user input which selects said available frequency band.

20. A server apparatus (20), comprising:  
a receiving element (21) operative to receive broadcast signals;  
first processing elements (28, 29) operative to generate first analog signals responsive to said received signals;  
second processing elements (31-33) operative to generate second analog signals responsive to said received signals, wherein the first analog signals have a different encoding than the second analog signals; and  
a controller (35) operative to detect available frequency bands on said transmission medium, wherein said first analog signals are provided to a first client device (50) via a transmission medium connecting said server apparatus (20) in response to a first request signal requesting a first desired analog signal by identifying a first program and said first client device (50) and further wherein said second analog signals are provided to a second client device (60) via said transmission medium connecting said server apparatus (20) and said second client device (60) in response to a second request signal requesting a second desired analog signal by identifying a second program, and further wherein said available frequency bands are used to provide said first analog signals to said first client device (50) and to provide said second analog signals to said second client device (60).

21. The server apparatus (20) of claim 20, wherein said transmission medium includes RG-59 cable.

22. The server apparatus (20) of claim 20, wherein said broadcast source includes a satellite source.

23. The server apparatus (20) of claim 20, wherein said broadcast source includes a digital terrestrial source.

24. The server apparatus (20) of claim 20, wherein said receiving element (21) is further operative to process said received signals to generate a digital transport stream.

25. The server apparatus (20) of claim 24, wherein said first processing elements (28, 29) include:

an A/V processor (28) operative to process said digital transport stream to generate analog baseband signals; and

a modulator (29) operative to modulate said analog baseband signals to generate said first analog signals.

26. The server apparatus (20) of claim 24, wherein said second processing elements (31-33) include:

an encoder (31) operative to encode said digital transport stream to generate encoded digital signals;

a digital-to-analog converter (32) operative to convert said encoded digital signals to analog baseband signals; and

a modulator (33) operative to modulate said analog baseband signals to generate said second analog signals.

27. The server apparatus (20) of claim 20, wherein said controller (35) scans a plurality of frequency bands on said transmission medium to detect said available frequency bands.

28. The server apparatus (20) of claim 20, wherein said controller (35) detects said available frequency bands based on a user input which selects said available frequency bands.